

Abstract Submitted
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Using wavelet transforms for improving the conditional sampling results ILKER UZUN, University of Iowa, FREDERICK SKIFF, University of Iowa — We combine two innovative techniques namely the wavelet transform and the conditional sampling in order to identify coherent moving structures existing in low frequency density fluctuations. The experiments are conducted for continuous, ArII plasma column immersed in 1KG magnetic field. The fluctuation measurements are obtained using laser induced fluorescence. Induced fluorescence signals are collected through two optical periscopes having mobility along the field lines inside the plasma chamber. The wavelet transform is initiated for filtering purposes, since the induced fluorescence signal is obscured by fluctuations due to photon statistics. Using the wavelet transform on the reference probe signal ease our search for conditions. We mark the indices for the samples satisfying the forced condition, and return to raw signal collected from the moving periscope in order to apply the conditional sampling technique.

Ilker Uzun
University of Iowa

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